SET NITROGEN TO MEET YIELD STRENGTH CRITERION OF 620 MPa

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DETERMINE Mo & Cr REQUIRED TO MEET A CORROSION REQUIREMENT OF PREN > 50

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SET Mn AT 6 WT.% AND Ni AT 22 WT%

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DETERMINE MO & CR FOR A FULLY AUSTENITIC ALLOY

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DETERMINE Mo & Cr FOR T σ < 1232° C

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DETERMINE ALLOY COSTS OF MATERIALS RELATIVE TO Ni-16Cr-16Mo-3W ALLOY

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DETERMINE Mo & Cr LEVELS WHICH WILL REQUIRE A NITROGEN GAS PRESSURE < 500 kPA

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FROM Mo & Cr RANGES MEETING ALL CRITERIA. SELECT CANDIDATE ALLOYS

FIG. 1